

## REMARKS

Claims 1-20 were pending in the application. Claims 16-20 are withdrawn from consideration. Claims 1-15 stand rejected. Claims 16-20 were cancelled. Claims 1-2, 4, 9, and 11-15 were amended. Claims 21-29 were added. Claims 1-15 and 21-29 remain in the application.

Claims 16-20 stood withdrawn and have been cancelled.

Claims 1-3, 5-12, 14-15 stand rejected under 35 U.S.C. 102(b) as being anticipated by Schwartz et al (US Patent No. 5,999,703). Claims 4 and 13 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Schwartz et al (US Patent No. 5,999,703).

The rejection stated in relation to Claim 1:

"Concerning claim 1, Schwartz et al discloses a method comprising generating dynamic control values (parameters entered from a control panel in Fig. 2) from dynamically selected colors using an existing characterization for a device (base profile 1 in Fig. 1); (S4-S 14, Fig. 1; col. 3, line 54 - col. 4, line 11); and producing a characterization target for the device (new profile 7 in Fig. 1) having color regions corresponding to the dynamic control values (S 16, Fig. 1; col. 4., lines 11-21; col. 6, line 1 - col. 7, line 2).

"Concerning claims 2-3, 5-8, Schwartz et al further teaches the steps of combining predetermined fixed control values for the device with the dynamic control values and producing the characterization target from the dynamic control values and the predetermined fixed control values (S8-S 14, Fig. 1; col. 4, line 49 - col. 5, line 67), (claim 2); providing dynamic colorimetric values for the dynamically selected colors, and determining the dynamic control values for the colorimetric colors using the existing characterization (col. 4, lines 11-65), (claim 3); providing the color regions in a topology having one of verification and device behavior characteristics (col. 4, line 64 - col. 5, line 22), (claim 5); the existing output device characterization is an ICC profile (col. 3, lines 54-56), (claim 6); the existing output device characterization is a characterization for a similar device or for a group of similar devices to which the device belongs (col. 3, lines 56-61), (claims 7-8).

Claim 1 has been amended to state:

1. A method, comprising:
  - generating dynamic control values from dynamically selected colors using an existing characterization for a device, said dynamically selected colors being colorimetrically different than colors defined by a predetermined set of fixed control values; and
  - producing a characterization target for the device having color regions having the dynamic control values.

Claim 1 is supported by the application as filed, notably original claims 1 and 16; page 3, lines 23-24; page 4, lines 9-13; page 4, lines 28-30; page 5, lines 13-18; and page 6, lines 6-8. The term "corresponding to" was changed to having in Claim 1 and other amended claims in accord with the language of original Claim 16.

Claim 1 requires that the dynamically selected colors are colorimetrically different than colors defined by predetermined fixed control values. This is unlike Schwartz et al., in which neutral parameters are dynamically selected and the original colorimetric characterization is retained. Schwartz et al. states:

"The present invention has the following advantages. It permits any person who owns a device profile characterizing a four-color output device to modify the way in which the profile balances black ink against the other colorants. It does this without destroying the validity of the profile as a characterization of that output device." (Schwartz et al., col. 2, line 66 to col. 3, line 4)

"At this point the user is shown a set of control panels (shown in FIGS. 2 and 3) which displays the current level of GCR in the profile S10. If the user does not like the parameters S12, a new set of parameters may be selected S14. The user may repeatedly modify the parameters (steps S10-S14) to re-modify the parameters, as will be obvious to those skilled in the art. Once the user has determined the desired amount of GCR, the process uses the derived forward model and the user-specified GCR parameters to produce S16 new output 4, simulation 5 and gamut 6 transforms, as described in detail herein below. These new transforms are combined with the original input transform 2 to produce a new device profile 7. The input transform 2 does not have to be changed because the input transform

21 depends only on the colorimetric characterization of the device, which does not change." (Schwartz et al., col. 4, lines 5-20; also see Figures 1-3)

Claims 2-8 are allowable as depending from Claim 1 and as follows.

The rejection stated in relation to Claim 4:

"Concerning claim 4, Schwartz et al further teaches the steps of determining relative colorimetric values from the dynamic colorimetric values using a set of neutral colors going from white to black, and determining the dynamic control values for the relative colorimetric values using a profile transform of the existing characterization (col. 4, lines 49-64).

"Schwartz et al does not directly teach the use of a white point of the existing characterization for determining relative colorimetric values. However, Schwartz et al teaches the use of a set of neutral colors going from white to black. The set also includes the white point since one of the neutral colors is white. It would have been obvious to one skilled in the art at the time the invention was made to consider Schwartz et al indirectly teaches the step of determining relative colorimetric values using a white point of the existing characterization since the set of neutral colors is defined on the neutral axis which is the line in color space where colors are neutral ranging from white to black colors (col. 4, lines 56-61)."

Claim 4 states:

4. A method as recited in claim 3, wherein said determining comprises:

determining relative colorimetric values from the dynamic colorimetric values using a white point of a predetermined medium defined in the existing characterization; and

determining the dynamic control values for the relative colorimetric values using a profile transform of the existing characterization.

Claim 4 is also allowable as requiring determining relative colorimetric values from dynamic colorimetric values using a white point of a predetermined medium defined in the existing characterization. Schwartz et al. does not need this step, insofar as Schwartz et al. relies upon ICC profiles, since Schwartz et al. operates

on ICC profiles without changing the colorimetric characterization. Schwartz et al. states:

"Referring to FIG. 1, an overview flowchart of the software program of the present invention is illustrated which software is designed to operate on ICC profiles." (Schwartz et al., col. 3, lines 54-56; also see col. 2, line 66 to col. 3, line 4 (quoted above); col. 4, lines 5-20 (quoted above); and Figures 1-3)

The rejection stated in relation to Claim 9:

"Concerning claim 9, Schwartz et al discloses a method (Fig. 1) as discussed in claim 1 and further comprising the steps of choosing a set of important colors (S6); obtaining a set of colorimetric values corresponding to the important colors (S8); generating a set of dynamic control values by converting the colorimetric values to the device control values using the existing characterization (S4-S14, Fig. 1; col. 3, line 60 - col. 3, line 64)."

Amended Claim 9 states:

9. A method for creating a dynamic output device characterization target using an existing characterization for the device, comprising:

providing a set of predetermined fixed control values for the device;

choosing a set of important colors, said important colors being colorimetrically different than colors defined by said fixed color values;

obtaining a set of colorimetric values corresponding to the important colors;

generating a set of dynamic control values by converting the colorimetric values to device control values using the existing characterization; and

producing the characterization target having patches having the device control values.

Claim 9 is supported and allowable on the same grounds as Claim 1 and as follows. Claim 9 requires both providing a set of predetermined fixed control values and choosing a set of important colors that are colorimetrically different

than colors defined by the fixed color values. The office action cites step S6 in relation to "choosing a set of important colors", but step S6 is limited to the input transform:

"A mathematical model is derived S6 from the input transform 2 of this profile 1 for describing the relationship between the amount of ink used in the output device and the resulting color." (Schwartz et al., col. 3, lines 62-66; see also col. 3, lines 56-62)

Schwartz et al. does not disclose or suggest choosing a set of important colors that are colorimetrically different than colors defined by a provided set of predetermined fixed color values.

Claims 10-11 are allowable as depending from Claim 9. Changed language of Claim 11, and like changes in other claims, is supported by the original claims, notably original Claim 16.

In relation to Claim 11-12, the rejection stated:

"Concerning claims 11-12, Schwartz et al further teaches that the characterization target contains patches corresponding to a set of fixed control values (col. 4, lines 22-43), (claim 11); producing predetermined sample control values for the device that uniformly sample a device color space (col. 4, line 49 - col. 5, line 5), generating dynamic control values from dynamically selected colors using an existing characterization for a device (S10-S14), combining the predetermined control values for the device with the dynamic control values (S16), and producing a characterization target for the device having color regions corresponding to the dynamic control values and the predetermined control values (new profile 7, Fig. 1), (col. 3, line 60 - col. 4, line 21), (claim 12)."

Claim 12 has been amended to state:

12. A method, comprising:  
producing predetermined sample control values for a device that uniformly sample a device color space;  
generating dynamic control values from dynamically selected colors using an existing characterization for the device;

producing a characterization target for the device having color regions having the dynamic control values and the predetermined control values;

colorimetrically measuring said color regions of said characterization target; and

generating a new characterization of the device based on said measuring of said color regions.

Claim 12 is supported by the application as filed notably at Claims 12 and 16; at page 7, lines 17-21; and at page 1, lines 11-16. Claim 12 was amended to correct an antecedents problem and to change "corresponding to". The phrase: "combining the predetermined control values for the device with the dynamic control values" was moved to added dependent Claim 21.

Claim 12 requires colorimetrically measuring color regions of the characterization target and generating a new characterization of the device based on said measuring of said color regions. Schwartz et al. teaches against this, since the existing colorimetric characterization is retained in Schwartz et al.:

"the colorimetric characterization of the device, which does not change."  
(Schwartz et al., col. 4, lines 19-20; see also item 2 in Figure 1 and above discussion of Claim 1)

The rejection states in relation to Claim 13:

"Concerning claim 13, Schwartz et al discloses a method as discussed in claims 5, 9 and 12 above. Schwartz et al further teaches the steps of determining relative colorimetric values from the dynamic colorimetric values using a set of neutral colors going from white to black, and determining the dynamic control values for the relative colorimetric values using a profile transform of the existing characterization (col. 4, lines 49-64).

"Schwartz et al does not directly teach the use of a white point of the existing characterization for determining relative colorimetric values. However, Schwartz et al teaches the use of a set of neutral colors going from white to black. The set also includes the white point since one of the neutral colors is white. It would have been obvious to one skilled in the art at the time the invention was made to consider Schwartz et al indirectly teaches the step of determining relative colorimetric values

using a white point of the existing characterization since the set of neutral colors is defined on the neutral axis which is the line in color space where colors are neutral ranging from white to black colors (col. 4, lines 56-61)."

Amended Claim 13 states:

13. A method, comprising:
  - producing predetermined sample control values for a device that uniformly sample a device color space of the device;
  - dynamically choosing important colors, said important colors being colorimetrically different than colors defined by said sample control values;
  - obtaining dynamic colorimetric values corresponding to the important colors;
  - generating dynamic control values by converting the colorimetric values to device control values using an existing ICC characterization for the device, said characterization including a white point for a predetermined media usable in said device, said generating comprising:
    - (a) determining relative colorimetric values for the dynamic colorimetric values using said white point;
    - (b) determining the dynamic control values from the relative colorimetric values using a profile transform of the existing characterization;
  - combining the predetermined control values for the device with the dynamic control values; and
  - producing a characterization target for the device on said predetermined media, said characterization target having color regions in a topology having verification and device behavior characteristics, said color regions having the dynamic control values and the predetermined control values.

Claim 13 is supported by the application as filed, notably original claims 13 and 16; page 3, lines 23-24; page 4, lines 9-13; page 4, lines 28-30; page 5, lines 13-18; page 6, lines 6-8; and page 10, lines 1-5. Claim 13 is allowable on the grounds discussed above in relation to Claim 1, 4, and 12 and as follows.

Claim 13 requires producing a characterization target for the device on media, which has a white point that was used in determining relative colorimetric values for the dynamic colorimetric values. This is unlike Schwartz et al., which retains the existing colorimetric characterization and, thus, does not teach or envision this step.

"the colorimetric characterization of the device, which does not change."  
(Schwartz et al., col. 4, lines 19-20; see also item 2 in Figure 1 and above discussion of Claim 1)

The rejection states in relation to Claims 14-15:

"Concerning claims 14, Schwartz et al discloses an apparatus comprising a source for a characterization for a device (1, Fig 1); a computer obtaining predetermined fixed uniform sample control values for the device (S6, Fig. 1; col. 3, lines 54-67; col. 4, lines 22-43), producing dynamic control values from dynamically selected colors using an existing characterization for a device (base profile 1 in Fig. 1); (S4-S14, Fig. 1; col. 3, line 54 - col. 4, line 11); and producing a characterization target for the device (new profile 7 in Fig. 1) having color regions corresponding to the dynamic control values and the predetermined fixed uniform sample control values (S16, Fig. 1; col. 4., lines 11-21; col. 6, line 1 - col. 7, line 2).

"Concerning claim 15, Schwartz et al discloses a computer readable storage controlling a computer by performing the steps discussed in claim 14 above (col. 3, lines 46-53)."

Claims 14-15 state:

14. An apparatus, comprising:  
a source for a characterization for a device; and  
a computer obtaining predetermined fixed uniform sample control values for the device, producing dynamic control values from dynamically selected colors using the characterization, said dynamically selected colors being colorimetrically different than colors defined by said fixed uniform sample control values, and producing a characterization target for the device having color regions having the dynamic control values and the predetermined fixed uniform sample control values.

15. A computer readable storage controlling a computer by obtaining predetermined fixed uniform sample control values for the device, producing dynamic control values from dynamically selected colors using an existing device characterization, said dynamically selected colors being colorimetrically different than colors defined by said fixed uniform sample control values, and producing a characterization target for the device having color regions corresponding to the dynamic control values and the predetermined fixed uniform sample control values.

Claims 14-15 are supported and allowable on the same grounds as Claims 1-2.

Added Claim 21 states:

21. A method as recited in claim 12 further comprising combining the predetermined control values for the device with the dynamic control values prior to said producing.

Claim 21, as discussed above, is supported by original Claim 12 and is allowable as depending from Claim 12.

Claim 22 was added, which states:

22. A method comprising:  
generating dynamic control values from dynamically selected colors using an existing characterization for a device;  
producing a characterization target for the device, said target having first and second pluralities of color regions, said color regions being colorimetrically measurable, said color regions of said first plurality each having a respective one of said dynamic control values, said color regions of said second plurality each having a respective one of said predetermined fixed control values.

Claim 22 is supported by the application as filed, notably original Claims 1, 2, and 16; and at page 3, lines 23-24 and page 7, lines 17-21.

Claim 22 requires producing a characterization target having first and second pluralities of colorimetrically measurable color regions, the first plurality of color regions each having a respective one of the dynamic control values, the second plurality of color regions each having a respective one of the predetermined fixed control values. Schwartz et al. discloses preparation of a profile, which retains the colorimetric characterization of a base profile unchanged. (See citations in above discussion of Claim 1.) Schwartz et al. does

not teach or even envision producing a target having colorimetrically measurable color regions.

Claims 23-25 state:

23. A method as recited in claim 22, further comprising:  
combining said fixed control values for the device with the  
dynamic control values; and  
producing the characterization target from the dynamic  
control values and said fixed control values.

24. A method as recited in claim 22, wherein said  
generating comprises:

providing dynamic colorimetric values for the dynamically  
selected colors; and  
determining the dynamic control values for the colorimetric  
colors using the existing characterization.

25. A method as recited in claim 24, wherein said  
determining comprises:

determining relative colorimetric values from the dynamic  
colorimetric values using a white point of a predetermined medium  
defined in the existing characterization; and

determining the dynamic control values for the relative  
colorimetric values using a profile transform of the existing  
characterization.

Claims 23-25 are supported by original claims 2-4 and are  
allowable as depending from Claim 22. Claim 25 is also allowable on the  
grounds discussed above in relation to Claim 4.

Claims 26-28 state:

26. The method of claim 9 wherein at least some of said  
important colors are non-neutral.

27. The method of claim 9 wherein said important colors  
include one or more of skin color, sky blue, and foliage green.

28. The method of claim 9 wherein said important colors  
include skin colors, sky blue, foliage green, and visual neutrals.

Claims 26-28 are supported by the application as filed, notably at page 5, lines 19-  
26 and are allowable as depending from Claim 9 and as requiring additional

characteristics of the important colors that are not taught or suggested by Schwartz et al. As earlier noted, in Schwartz et al. the user chooses parameters relating to balancing of black ink against other colorants, without changing the colorimetric characterization.

Claim 29 states:

29. A method for creating a dynamic output device characterization target using an existing characterization for the device, comprising:

providing a set of predetermined fixed control values for the device;

choosing a set of important colors, said important colors being colorimetrically different than colors defined by said fixed color values, said important colors including one or more of skin colors, sky blue, and foliage green;

obtaining a set of colorimetric values corresponding to the important colors;

generating a set of dynamic control values by converting the colorimetric values to device control values using the existing characterization; and

producing the characterization target having patches having the device control values.

Claim 29 is supported and allowable on the same grounds as were discussed in relation to Claims 9, 12, 22, and 26.

It is believed that these changes now make the claims clear and definite and, if there are any problems with these changes, Applicants' attorney would appreciate a telephone call.

In view of the foregoing, it is believed none of the references, taken singly or in combination, disclose the claimed invention. Accordingly, this application is believed to be in condition for allowance, the notice of which is respectfully requested.

Respectfully submitted,



Attorney for Applicant(s)  
Registration No. 30,700

Robert Luke Walker/amb  
Rochester, NY 14650  
Telephone: (585) 588-2739  
Facsimile: (585) 477-1148

Enclosures: Request for Two-Month Extension of Time  
Transmittal Fee Form  
PTO-2038 (original & copy)  
Postcard